


MEMORANDUM

TO: Mr. Michael J. Crowley
Vice President
athenaEnvironment
311 Arsenal Street
Watertown, MA 02472

FROM: Mr. Jeffrey S. Dirk, P.E., PTOE, FITE 
Principal
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DATE: July 1, 2016

RE: 6581

SUBJECT: Transportation Improvement Program
The Arsenal on the Charles
Watertown, Massachusetts

Vanasse & Associates, Inc. (VAI) has prepared an updated Transportation Improvement Program summary in support of the Campus Plan for The Arsenal on the Charles located off Arsenal Street and North Beacon Street in Watertown, Massachusetts (hereafter referred to as the "Project"). This information supersedes the improvement program summary that was presented in the April 2016 Amended *Transportation Impact Assessment* and subsequent documents that have been submitted to the Town concerning same.

By way of background, Athena Arsenal, LLC has been working with the Department of Community Development and Planning (DCDP), the Department of Public Works (DPW), and WorldTech Engineering (DPW's independent review consultant) to develop a comprehensive transportation improvement program for the Project that accomplishes the following goals:

1. **Address existing congestion, safety and mobility concerns;**
2. **Facilitate safe and efficient access to the Campus for all roadway users** (pedestrians, bicycles, transit users and motorists);
3. **Accommodate future growth and planning unrelated to the Campus;** and
4. **Advance transportation infrastructure improvements that are consistent with Town goals** for trip-reduction, pedestrian and bicycle connectivity, neighborhood preservation and infrastructure resiliency.

As a result of this collaborative effort, Athena Arsenal, LLC has committed to the following Transportation Improvement Program for the Project, the elements of which will be completed by Athena Arsenal, LLC subject to receipt of all necessary rights, permits and approvals. Improvements that are to be completed along the Arsenal Street corridor shall be consistent with the recommendations of the Arsenal Street Corridor Study to the extent that the recommendations are available prior to the design and construction of the improvements.

PROJECT ACCESS

Access to the Project site will continue to be provided by way of four (4) roadways/driveways as follows: Talcott Avenue (east driveway), a full-access driveway that intersects the south side of Arsenal Street and is under traffic signal control; Kingsbury Avenue (center driveway), an entrance-only driveway that intersects the south side of Arsenal Street; Wooley Avenue (west driveway), a full movement entrance and right-turn exit only driveway that intersects the south side of Arsenal Street; and School Street (rear driveway), a full-access driveway that intersects the north side of North Beacon Street opposite Charles River Road and is under traffic signal control. The following recommendations are offered with respect to the design and operation of the Project site driveways and have been incorporated into the Campus Plan:

- Talcott Avenue, the full-access Project site driveway that is under traffic signal control, will be a minimum of 40-feet in width in order to accommodate the turning and maneuvering requirements of delivery trucks, and will provide one entering travel lane and two exiting travel lanes.
- Kingsbury Avenue, the entrance-only Project site driveway, will be a minimum of 16-feet in width and accommodate one-way travel with appropriate signs (“One-Way”, “Do Not Enter”, etc.) and pavement markings provided to regulate the one-way traffic flow along the driveway.
- Wooley Avenue, the west Project site driveway and access to the west parking garage, will be a minimum of 24-feet in width and provide one entering travel lane and one exiting travel lane, with exiting traffic restricted to right turns only by way of appropriate signs and pavement markings. Vehicles exiting Wooley Avenue will remain under STOP-sign control until such time as the new parking garage is constructed.
- Commensurate with the construction of the west parking garage, the Arsenal Street/ Wooley Avenue intersection will be placed under traffic signal control and the right-turn restriction for traffic exiting Wooley Avenue will be removed (i.e., left and right-turn movements will be permitted exiting the Project site). The proposed traffic signal will be interconnected and coordinated with the traffic signals that comprise the Arsenal Street traffic signal system, and will include provisions for pedestrian and bicycle crossings of Arsenal Street and Wooley Avenue.
- The School Street full-access Project site driveway that is under traffic signal control will be a minimum of 40-feet in width in order to accommodate the turning and maneuvering requirements of delivery trucks, and will provide one entering travel lane and two exiting travel lanes.
- All signs and pavement markings to be installed within the Project site will conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).¹
- Sidewalks, pathways or “shared street” accommodations will be provided within the Project site linking the existing and proposed buildings, parking garages and other amenities to the sidewalk and bicycle infrastructure along Arsenal Street and North Beacon Street.
- Marked crosswalks and wheelchair ramps compliant with the Americans with Disabilities Act (ADA) will be provided at pedestrian crossings within the Project site and across the Project site roadways/driveways.

¹*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

- Signs or landscaping internal to the Project site and at the Project site roadway/driveway intersections with Arsenal Street and North Beacon Street will be designed and maintained so as not to restrict lines of sight.

OFF-SITE

Athena Arsenal, LLC will complete the following off-site roadway, intersection and traffic control improvements in conjunction with the Project and subject to receipt of all necessary rights, permits and approvals.

Arsenal Street Traffic Signal System

In order to improve operating conditions along the Arsenal Street corridor and to off-set the predicted impact of the Project, Athena Arsenal, LLC will design and implement an optimal traffic signal timing, phasing and coordination plan that will encompass the 11 existing (including two (2) intersections along North Beacon Street that are or will be a part of the Arsenal Street traffic signal system) and two (2) proposed traffic signals along the corridor as follows:

1. Arsenal Street/Arlington Street/Coolidge Avenue
2. Arsenal Street/Watertown Mall Driveway
3. Arsenal Street/Arsenal Mall Driveway/Watertown Mall Driveway
4. Arsenal Street/Arsenal Court/Birch Street
5. Arsenal Street/Talcott Avenue
6. Arsenal Street/School Street
7. Arsenal Street/Wooley Avenue (new)
8. Arsenal Street/Beechwood Avenue
9. Arsenal Street/Hanover-WS Venture-Cresset Development Driveway (new)
10. Arsenal Street/Irving Street
11. Arsenal Street/North Beacon Street/Taylor Street
12. North Beacon Street at Beechwood Avenue
13. North Beacon Street at Irving Street

All new traffic signals that are to be constructed as a part of the Project will include provisions for the implementation of Adaptive Traffic Signal Control (ATSC) in accordance with the pending recommendations from the Arsenal Street Corridor Study. The traffic signal timing, phasing and coordination improvements will be completed prior to the issuance of a permanent Certificate of Occupancy for the new (west) parking garage within the Project site and will include the installation of all necessary appurtenances to provide a fully functioning, coordinated traffic signal system that encompasses the aforementioned intersections.

Arsenal Street at Greenough Boulevard and Private Driveway

An analysis of operating conditions at the unsignalized intersection of Arsenal Street at Greenough Boulevard and a private driveway indicates that motorists exiting Greenough Boulevard experience excessive delay during both peak periods under 2016 Existing conditions independent of the Project due to the relatively large volume of conflicting traffic on Arsenal Street. Absent improvements, motorist delays are expected to increase in the future, again, independent of the Project. Recognizing the importance of this intersection in providing access to the Project site and the residences and businesses in the area, Athena Arsenal, LLC will undertake the following measures:



1. Complete a detailed Traffic Signal Warrants Analysis (TSWA) for the intersection in accordance with the procedures outlined in the MUTCD², including performing a continuous 12-hour (7:00 AM to 7:00 PM) manual turning movement count.
2. If the installation of a traffic control signal is found to be warranted, Athena Arsenal, LLC will coordinate with DCR, DCDP and DPW to obtain funding for the installation of a traffic control signal at the intersection.

The TSWA will be completed by Athena Arsenal, LLC prior to the issuance of a building permit for the new parking garage within the Project site and will be submitted to DCDP and DPW. With the installation of a traffic control signal, overall operating conditions at the intersection were shown to improve to a level-of-service (LOS) “B” during all analysis peak periods. Not reflected in the LOS analysis is the benefit that the traffic signal system will have on pedestrian and bicycle access across Arsenal Street and to/from Greenough Boulevard and the DCR trail system along the Charles River.

In addition, this unsignalized intersection was found to have a motor vehicle crash rate above the MassDOT statewide and Highway Division District 6 average for an unsignalized intersection and was included on MassDOT’s High Crash Location List, with the predominant collision types reported as angle or rear-end type collisions. These collision types at unsignalized intersections are typically attributable to sight distance restrictions and/or inadequate or missing signs and pavement markings. A review of the subject intersection indicates that sight lines from the intersection looking to the west along Arsenal Street are restricted by vegetation located along the south side of the roadway. In an attempt to reduce the frequency of occurrence of motor vehicle collisions at this intersection, Athena Arsenal, LLC will implement the following measures:

- Existing signs and pavement markings at the intersection will be reviewed, upgraded and/or replaced as necessary; and
- Vegetation located along both Arsenal Street and Greenough Boulevard in the vicinity of the intersection will be trimmed and maintained to increase lines of sight.

These improvements will be completed by Athena Arsenal, LLC prior to the issuance of a permanent Certificate of Occupancy for the new parking garage within the Project site and subject to receipt of all necessary rights, permits and approvals.

Arsenal Street at Wooley Avenue

In order to facilitate access to the new parking garage and pedestrian and bicycle connectivity across Arsenal Street and through the Campus, Athena Arsenal, LLC will design and construct a traffic signal system at the intersection of Arsenal Street at Wooley Avenue. The traffic signal will be integrated into the Arsenal Street coordinated traffic signal system and will include: ATSC compatible traffic signal controller; pedestrian and bicycle crosswalks; curblane extensions (bump-outs); Accessible Pedestrian Signal (APS) devices with accompanying pushbuttons (vibratory), signs and saddles; and ADA compliant pedestrian crossings. All crosswalks and bicycle crossings will be constructed in accordance with the standards required by DPW.

These improvements will be completed by Athena Arsenal, LLC prior to the issuance of a permanent Certificate of Occupancy for the new parking garage within the Project site and subject to receipt of all necessary rights, permits and approvals. With the installation of a traffic control signal, this intersection

²Ibid.

was shown to operate at an overall LOS “C” or better during the weekday morning, weekday evening and Saturday midday peak hours.

North Beacon Street at Charles River Road and School Street

The addition of Project-related traffic to the signalized intersection of North Beacon Street at Charles River Road and School Street was shown to result in a degradation in overall level-of-service between the No-Build and Build condition from LOS “C” to LOS “E” during the weekday morning peak-hour and from LOS “D” to LOS “F” during the weekday evening peak-hour. As such, and recognizing the importance of this intersection in providing access to the Project and the residences and businesses in the area, Athena Arsenal, LLC will modify the Charles River Road approach to provide a shared left-turn/through travel lane and a right-turn lane, and will design and implement an optimal traffic signal timing and phasing plan. In addition, the traffic signal system will be upgraded to include pedestrian countdown signal heads and APS devices with accompanying pushbuttons (vibratory), signs and saddles. Further, the improvements will include the installation of ADA compliant wheelchair ramps and curblane extensions (bump-outs) to reduce pedestrian crossing distances, as well as new signs and pavement markings at and approaching the intersection.

These improvements will be completed by Athena Arsenal, LLC prior to the issuance of a permanent Certificate of Occupancy for the new parking garage within the Project site and subject to receipt of all necessary rights, permits and approvals. With the implementation of the recommended improvements, overall operating conditions at the intersection were shown to improve to LOS “C” during the weekday morning peak-hour, to LOS “D” during the weekday evening peak-hour and to LOS “B” during the Saturday midday peak-hour.

North Beacon Street at Greenough Boulevard

An analysis of operating conditions at the unsignalized intersection of North Beacon Street at Greenough Boulevard indicates that motorists exiting Greenough Boulevard experience excessive delay during both peak periods under 2016 Existing conditions independent of the Project due to the relatively large volume of conflicting traffic on North Beacon Street. Absent improvements, motorist delays are expected to increase in the future, again, independent of the Project. Recognizing the importance of this intersection in providing access to the Project site and the residences and businesses in the area, Athena Arsenal, LLC will undertake the following measures:

1. Complete a detailed Traffic Signal Warrants Analysis (TSWA) for the intersection in accordance with the procedures outlined in the MUTCD³, including performing a continuous 12-hour (7:00 AM to 7:00 PM) manual turning movement count.
2. If the installation of a traffic control signal is found to be warranted, Athena Arsenal, LLC will coordinate with DCR, DCDP and DPW to obtain funding for the installation of a traffic control signal at the intersection.

The TSWA will be completed by Athena Arsenal, LLC prior to the issuance of a building permit for the new parking garage within the Project site and will be submitted to DCDP and DPW. With the installation of a traffic control signal, overall operating conditions at the intersection were shown to improve to LOS “D” during both the weekday morning and weekday evening peak hours. Not reflected in the LOS analysis is the benefit that the traffic signal system will have on pedestrian and bicycle access

³Ibid.

across North Beacon Street and to/from Greenough Boulevard and the DCR trail system along the Charles River.

In addition, this unsignalized intersection was found to have a motor vehicle crash rate above the MassDOT statewide and Highway Division District 6 average for an unsignalized intersection and was included on MassDOT's High Crash Location List, with the predominant collision types reported as angle-type collisions. These collision types at unsignalized intersections are typically attributable to sight distance restrictions and/or inadequate or missing signs and pavement markings. A review of the subject intersection indicates that sight lines approaching from and looking to the east along North Beacon Street are restricted due to the vertical curvature of the bridge over the Charles River. In an attempt to reduce the frequency of occurrence of motor vehicle collisions at this intersection, Athena Arsenal, LLC will implement the following measures:

- Existing signs and pavement markings at the intersection will be reviewed, upgraded and/or replaced as necessary;
- Vegetation located along both North Beacon Street and Greenough Boulevard in the vicinity of the intersection will be trimmed and maintained to increase lines of sight; and
- Intersection ahead warning sign (graphic symbol) will be installed on North Beacon Street approximately 125 feet east of Greenough Boulevard in order to inform motorists of the potential for vehicles entering the travelled way.

These improvements will be completed by Athena Arsenal, LLC prior to the issuance of a permanent Certificate of Occupancy for the new parking garage within the Project site and subject to receipt of all necessary rights, permits and approvals.

Watertown Square

Overall operating conditions for the coordinated traffic signal systems that comprise Watertown Square (Main Street/Pleasant Street, Main Street/Church Street, North Beacon Street/Mount Auburn Street/Galen Street/Charles River Road, and Galen Street/Nonantum Road/Watertown Street) were shown to be constrained (LOS "F") under 2016 Existing conditions independent of the Project. In order to improve operating conditions, Athena Arsenal, LLC will design and implement an optimal traffic signal timing, phasing and coordination plan for the traffic signal systems that comprise Watertown Square. These improvements will be completed by Athena Arsenal, LLC prior to the issuance of a permanent Certificate of Occupancy for the new parking garage within the Project site.

In addition, in order to advance the long-term improvements that are planned by the DPW for Watertown Square, Athena Arsenal, LLC will contribute \$250,000 to the Town for use in the design and implementation of the Watertown Square improvement project. Said contribution will be made by Athena Arsenal, LLC in a timely manner when notified by the Town that the design of the improvements is advancing.

Arsenal Street Corridor Mobility Improvements

Athena Arsenal, LLC will contribute \$2.04 million for the planning, design and construction of pedestrian, bicycle, traffic control and safety improvements along the Arsenal Street corridor, to include the installation of ATSC equipment and pavement sensors to allow DPW to monitor surface temperature and moisture conditions for de-icing operations. At the Arsenal Street/School Street intersection, in addition to the traffic signal system improvements discussed previously, Athena Arsenal, LLC will design



and construct the following improvements in order to improve pedestrian and bicycle mobility and access to/from the Watertown Greenway:

- Install bike boxes and enhanced signs and pavement markings on School Street to reinforce the Watertown Greenway crossing;
- Install pedestrian countdown signals and accompanying pushbuttons, signs and saddles;
- Install APS devices; and
- Implement geometric changes to include: corner radii improvements; curblane extensions (bump-outs) and ADA compliant wheelchair ramps; and traffic calming measures as approved by DPW.

Crosswalks and bicycle crossings shall be constructed in accordance with the standards required by DPW. The Arsenal Street/School Street intersection improvements will be designed and constructed by Athena Arsenal, LLC prior to the issuance of a permanent Certificate of Occupancy for the new parking garage within the Project site and subject to receipt of all necessary rights, permits and approvals. The schedule for the design and implementation of the balance of the Arsenal Street Mobility Improvements will be determined in consultation with DCDP and the Director of DPW.

School Street at Walnut Street and Dexter Avenue

In order to improve pedestrian and bicycle mobility and enhance safety at the unsignalized intersection of School Street at Walnut Street and Dexter Avenue, Athena Arsenal, LLC will design and construct the following improvements to the intersection:

- Design and construct pedestrian and bicycle accommodations to include curblane extensions (bump-outs) and traffic calming measures as approved by DPW; and
- Install a solar powered flashing beacon to reinforce the STOP-sign control of both Walnut Street and Dexter Avenue

Crosswalks and bicycle crossings shall be constructed in accordance with the standards required by DPW and shall include the requisite pedestrian/bicycle crossing warning signs as appropriate. These improvements will be completed by Athena Arsenal, LLC prior to the issuance of a permanent Certificate of Occupancy for the new parking garage within the Project site and subject to receipt of all necessary rights, permits and approvals.

North Beacon Street

In an effort to reduce vehicle travel speeds along the North Beacon Street corridor and to enhance motorist awareness of the neighborhood setting and the presence of pedestrians and bicyclists along the corridor, particularly those areas northwest of School Street and inclusive of The Perkins School for the Blind, Athena Arsenal, LLC will install two (2) post mounted radar speed signs (one for each direction of travel) at a location to be determined in consultation with DPW and northwest of School Street. The radar speed signs will provide motorist feedback as to their travel speed in relation to the posted speed limit (speed limit signs to accompany the radar speed signs) and will also log speed data to allow the Police Department to target speed enforcement during those time periods when speeding is prevalent. The radar speed signs will be installed by Athena Arsenal, LLC prior to the issuance of a permanent Certificate of Occupancy for the new parking garage within the Project site and subject to receipt of all necessary rights, permits and approvals.

Watertown Community Path

In order to advance the extension of the Watertown Community Path, Athena Arsenal, LLC will contribute \$130,000 for the planning and design of the extension. Said contribution will be made by Athena Arsenal, LLC in a timely manner when notified by the Town that the design of the Community Path extension is advancing.

TRANSPORTATION DEMAND MANAGEMENT

(Included as a separate document submitted under separate cover)

TRAFFIC MONITORING AND REPORTING PROGRAM

Athena Arsenal, LLC will conduct a post-development traffic monitoring program in order to validate the trip projections and associated impacts of the Campus Plan. To assist in the collection of traffic count data, Athena Arsenal, LLC (or subsequent owner) shall install permanent vehicle count equipment at each access to the Campus that shall record the number of vehicles entering and exiting the Campus on a continuous basis. The monitoring program will include:

- i) Using the permanent vehicle count equipment installed at each access to the Campus, document and record the number of vehicles entering and exiting the Campus over a continuous seven day, weeklong period in each month of the reporting period;
- ii) Performing manual turning movement and vehicle classification counts at the Campus driveway intersections with Arsenal Street and North Beacon Street during the weekday morning (7:00 to 9:00 AM), weekday evening (4:00 to 6:00 PM) and Saturday midday (11:00 AM to 2:00 PM) peak hours; and
- iii) Evaluating motor vehicle crash data at the Campus driveway intersections with Arsenal Street and North Beacon Street.

The traffic monitoring program will commence immediately after issuance of the permanent Certificate of Occupancy for the new parking garage and will continue on an annual basis for a minimum of two years, but not to exceed 7 years, thereafter. If the annual monitoring reports submitted show that the Campus is consistently generating traffic volumes that are below those documented in the April 2016 Amended *Transportation Impact Assessment* prepared by Vanasse & Associates, Inc., then the DCDP may reduce the duration for which monitoring reports are required. The results of the monitoring program will be summarized in a report to be provided to DCDP within 2-months after the completion of the first data collection effort and annually thereafter for the duration of the monitoring program.

The traffic monitoring report will document the traffic volumes associated with the Campus as occupied at the time that the traffic counts are completed, the motor vehicle crash history at the Campus driveways, and traffic operations (level-of-service, motorist delays and vehicle queuing) at the Campus driveway intersections with Arsenal Street and North Beacon Street. If i) the measured traffic volumes for the Campus exceed the traffic volume projections that form the basis of the April 2016 Amended *Transportation Impact Assessment* by more than 10 percent on a regular and sustained basis during the monitoring period; ii) there is a material increase in the number of motor vehicle crashes occurring at the Campus site driveways that can be directly attributed to the Campus; and/or iii) overall operating conditions at the Campus driveways are identified to be below LOS "D"; Athena Arsenal, LLC will

identify and undertake corrective measures in conjunction with the appropriate parties and subject to receipt of all necessary rights permits and approvals. These measures may include without limitation:

- Sign and pavement marking installation
- Traffic signal timing, phasing and coordination adjustments
- Expansion of the Transportation Demand Management (TDM) program to provide additional measures and inducements to reduce traffic and parking demands
- Providing additional on-site amenities to encourage use of public transportation

The identified corrective measures, if any, will be documented in the transportation monitoring and reporting program report, and will identify the appropriate parties responsible for implementation, required approvals, and the timeline for implementation. The status of implementation of the identified improvement measure will be documented in the subsequent monitoring report.

ARSENAL ON THE CHARLES CAMPUS PLAN
TRANSPORTATION IMPROVEMENT PROGRAM
REVISED THROUGH 07-01-16

Intersection	Improvement Measure	Responsible Party	Implementation Schedule
<i>Arsenal Street Traffic Signal System (includes 9 existing traffic signals between Coolidge Avenue and Taylor Street, 2 proposed traffic signals, and 2 intersections along North Beacon Street)</i>	<ul style="list-style-type: none"> – Design and implement an optimal traffic signal timing, phasing and coordination plan 	Athena Arsenal, LLC	Prior to issuance of a permanent Certificate of Occupancy for new parking garage
<i>Arsenal Street/Greenough Boulevard (unsignalized)</i>	<p><u>Safety:</u></p> <ul style="list-style-type: none"> – Review/upgrade/replace signs and pavement markings – Trim/maintain vegetation to improve sight lines <p><u>Traffic Operations:</u></p> <ul style="list-style-type: none"> – Complete a Traffic Signal Warrants Analysis – Coordinate with DCR, DCDP and DPW to secure funding for the installation of a traffic control signal if warranted 	Athena Arsenal, LLC	<p><u>Safety:</u></p> <p>Prior to issuance of a permanent Certificate of Occupancy for new parking garage</p> <p><u>Traffic Operations:</u></p> <p>Warrants Analysis prior to issuance of a building permit for new parking garage</p>
<i>Arsenal Street/Wooley Avenue</i>	<ul style="list-style-type: none"> – Install a traffic control signal and integrate into the Arsenal Street traffic signal system – Traffic signal equipment shall be ATSC compatible – New intersection to include pedestrian and bicycle crosswalks, curblane extensions (bump-outs), APS devices and ADA compliant pedestrian crossings – Crosswalks and bicycle crossings to be constructed in accordance with the standards required by DPW 	Athena Arsenal, LLC	Prior to issuance of a permanent Certificate of Occupancy for new parking garage

ARSENAL ON THE CHARLES CAMPUS PLAN
TRANSPORTATION IMPROVEMENT PROGRAM
REVISED THROUGH 07-01-16

Intersection	Improvement Measure	Responsible Party	Implementation Schedule
<p><i>North Beacon Street/Charles River Road/School Street</i></p>	<ul style="list-style-type: none"> – Modify Charles River Road approach to provide a left-turn/through travel lane and a right-turn lane – Design and implement an optimal traffic signal timing and phasing plan – Install pedestrian countdown signals and accompanying pushbuttons, signs and saddles – Install APS devices – Implement geometric changes to include corner radii improvements; curblane extensions (bump-outs) and ADA compliant wheelchair ramps; and traffic calming measures as approved by DPW and DCR – Crosswalks and bicycle crossings to be constructed in accordance with the standards required by DPW 	<p>Athena Arsenal, LLC</p>	<p>Prior to issuance of a permanent Certificate of Occupancy for new parking garage</p>
<p><i>North Beacon Street/Greenough Boulevard</i></p>	<p><u>Safety:</u></p> <ul style="list-style-type: none"> – Review/upgrade/replace signs and pavement markings – Trim/maintain vegetation to improve sight lines – Install “Intersection Ahead” warning signs on North Beacon Street <p><u>Traffic Operations:</u></p> <ul style="list-style-type: none"> – Complete a Traffic Signal Warrants Analysis – Coordinate with DCR, DCDP and DPW to secure funding for the installation of a traffic control signal if warranted 	<p>Athena Arsenal, LLC</p>	<p><u>Safety:</u></p> <p>Prior to issuance of a permanent Certificate of Occupancy for new parking garage</p> <p><u>Traffic Operations:</u></p> <p>Warrants Analysis prior to issuance of a building permit for new parking garage</p>

ARSENAL ON THE CHARLES CAMPUS PLAN
TRANSPORTATION IMPROVEMENT PROGRAM
REVISED THROUGH 07-01-16

Intersection	Improvement Measure	Responsible Party	Implementation Schedule
<i>Watertown Square</i> <i>(Main Street/Pleasant Street, Main Street/Church Street, North Beacon Street/ Mount Auburn Street/ Galen Street/Charles River Road, and Galen Street/Nonantum Road/Watertown Street</i>	<ul style="list-style-type: none"> – Design and implement an optimal traffic signal timing, phasing and coordination plan – Contribute \$250,000 to the Town for use toward the design and construction of improvements to the intersections and roadways that comprise Watertown Square 	Athena Arsenal, LLC	<ul style="list-style-type: none"> – Timing improvements to be implemented prior to issuance of a permanent Certificate of Occupancy for new parking garage – Contribution to be provided when Town is ready to commence the design of the improvements
<i>School Street/Walnut Street/ Dexter Avenue Intersection Improvements</i>	<ul style="list-style-type: none"> – Design and implement improvements to the intersection to include pedestrian and bicycle accommodations, curblane extensions (bump-outs) and traffic calming measures as approved by DPW – Crosswalks to be constructed in accordance with the standards required by DPW and to include accompanying warning signs – Install a solar powered flashing beacon to reinforce the STOP-sign control of both Walnut Street and Dexter Avenue 	Athena Arsenal, LLC	Prior to issuance of a permanent Certificate of Occupancy for new parking garage

ARSENAL ON THE CHARLES CAMPUS PLAN
TRANSPORTATION IMPROVEMENT PROGRAM
REVISED THROUGH 07-01-16

Intersection	Improvement Measure	Responsible Party	Implementation Schedule
<i>North Beacon Street</i>	– Install radar speed signs (2, one for each direction of travel)	Athena Arsenal, LLC	Prior to issuance of a permanent Certificate of Occupancy for new parking garage
<i>Arsenal Street Corridor Mobility Improvements</i>	– Design and implement \$2.04 million of improvements to include pedestrian, bicycle, traffic control and safety improvements along the Arsenal Street corridor to include replacement of traffic signal equipment and geometric modifications at the Arsenal Street/School Street intersection and installation of ATSC equipment	Athena Arsenal, LLC	Arsenal Street/School Street improvements prior to issuance of a permanent Certificate of Occupancy for new parking garage; schedule for balance of improvements will be determined in consultation with DCDP and the Director of DPW
<i>Watertown Community Path Extension</i>	– Contribute \$130,000 for planning and design of the extension of the Watertown Community Path	Athena Arsenal, LLC	When notified by the Town that the design of the Community Path extension is advancing